Typical laboratory characteristics of DKA and HHS*

	DKA			HHS
	Mild	Moderate	Severe	
Plasma glucose (mg/dL)	>250	>250	>250	>600
Plasma glucose (mmol/L)	>13.9	>13.9	>13.9	>33.3
Arterial pH	7.25 to 7.30	7.00 to 7.24	<7.00	>7.30
Serum bicarbonate (mEq/L)	15 to 18	10 to <15	<10	>18
Urine ketones¶	Positive	Positive	Positive	Small
Serum ketones - Nitroprusside reaction	Positive	Positive	Positive	≤ Small
Serum ketones - Enzymatic assay of beta hydroxybutyrate (normal range <0.6 mmol/L)Δ	3 to 4 mmol/L	4 to 8 mmol/L	>8 mmol/L	<0.6 mmol/L
Effective serum osmolality (mOsm/kg)◇	Variable	Variable	Variable	>320
Anion gap§	>10	>12	>12	Variable
Alteration in sensoria or mental obtundation	Alert	Alert/drowsy	Stupor/coma	Stupor/coma

DKA: diabetic ketoacidosis; HHS: hyperosmolar hyperglycemic state.
* There may be considerable diagnostic overlap between DKA and HHS.
¶ Nitroprusside reaction method.
Δ NOTE: Many assays for beta hydroxybutyrate can only report markedly elevated values as >6.0 mmol/L.
◇ Calculation: 2[measured Na (mEq/L)] + glucose (mg/dL)/18.
§ Calculation: (Na+) – (Cl– + HCO3–) (mEq/L). See text for details.

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